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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,160	11/20/2003	Herman R. Mitchell	SD-01	8988

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Mark A. Navarre
Navarre Law Office
P.O. Box 537
Urbana, OH 43078

EXAMINER

TRIEU, THAI BA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,160	Applicant(s) MITCHELL, HERMAN R.	
	Examiner Thai-Ba Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/17/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically,

- In claim 6, the recitation of ***“said supercharger being located remote from said engine”*** should be incorporated with the specification.

Claim Objections

Claim 9 is objected to because of the following informalities:

- Line 1, ***“7”*** after the ***“The power-plant of Claim”*** should be replaced by ***-- 8 --*** (for correcting typo error).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim **6** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- The recitation of ***“said supercharger being located remote from said engine”*** renders the claim indefinite, since it is not clear that how far from the

engine, the supercharger is positioned? Applicant should define/clarify the distance between the supercharger and the engine, or the location of the supercharger.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (Patent Number 4,674,283).

Ishida discloses an engine powerplant including intake (17) and exhaust (2) manifolds, and a turbocharger (40) powered by gas flow at an outlet of the exhaust manifold (2) for supplying inlet air to the intake manifold (17) at a boosted pressure, further comprising:

a supercharger (11) driven directly or indirectly by the engine for establishing a high pressure air supply;

at least one air injection pipe (via 19) coupling said high pressure air supply to the exhaust manifold (2) of said engine (See Figures 1-2, and Column 4, lines 44-53);

an inlet air filter (7) for filtering atmospheric air supplied to said turbocharger (40) and said supercharger (11) (See Figures 1-2).

Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Dorsch (Patent Number 4,091,620).

Dorsch discloses an engine powerplant including intake (4) and exhaust (7) manifolds, and a turbocharger (2) powered by gas flow at an outlet of the exhaust manifold for supplying inlet air to the intake manifold (4) at a boosted pressure, further comprising:

a supercharger (9) driven directly or indirectly by the engine (via 8) for establishing a high pressure air supply; and

at least one air injection pipe (12) coupling said high pressure air supply to the exhaust manifold of said engine (See Figure, and Column 3, lines 36-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Ishida et al. (Patent Number 4,674,283), or Dorsch (Patent Number 4,091,620), in view of Weber et al. (Patent Number 6,094,909).

Ishida/Dorsch discloses the invention as recited above; however, Ishida/Dorsch fails to disclose an array of air injection pipes; and said engine discharging exhaust gas into said exhaust manifold at a plurality of locations, and said array of air injection pipes

injecting air from said high pressure air supply into said exhaust manifold at said plurality of locations.

Weber teaches that it is conventional in the secondary air system for the internal combustion engine art, to utilize an array of air injection pipes (27, 28, 29, 30) coupling said high pressure air supply to distributed locations of said exhaust manifold (31) upstream of said outlet; and said engine discharging exhaust gas into said exhaust manifold at a plurality of locations, and said array of air injection pipes injecting air from said high pressure air supply into said exhaust manifold at said plurality of locations (See Figures 2-3, and Column 3, lines 3-22).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized an array of air injection pipes, as taught by Weber, to improve the oxidation of hydrocarbons and carbon monoxides, in the Ishida/Dorsch device, since the use thereof would have reduced the exhaust emissions through the secondary combustion in a turbocharged internal combustion engine and controlled air-fuel ratio for improved thermodynamic efficiency.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorsch (Patent Number 4,091,620), in view of Yoshimura (Patent Number 5,095,691).

Dorsch discloses the invention as recited above, further disclose said supercharger (9) being located remote from said engine (See Figure); however Dorsch fails to disclose a hydraulic pump driven by said engine; a hydraulic motor driving said

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supercharger and powered by hydraulic fluid produced by said hydraulic pump, and a controller.

Yoshimura teaches that it is conventional in the secondary air system for the internal combustion engine art, to utilize a hydraulic pump (3) driven by said engine (13); a hydraulic motor (7) driving said supercharger (8) and powered by hydraulic fluid produced by said hydraulic pump; and a controller (23) for controlling a flow of said hydraulic fluid to control an operating speed of said supercharger (See Figure 1, Column 2, lines 57-68, and Column 3, lines 1-60).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a hydraulic pump driven by said engine; a hydraulic motor driving said supercharger and powered by hydraulic fluid produced by said hydraulic pump; and a controller, as taught by Yoshimura, to avoid the difficulty of installing an air pump to the engine, reduce the cost of assembly equipments, and increase the freedom of the air pump arrangement in the turbocharged internal combustion engine.

Allowable Subject Matter

Claims 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The IDS (PTO-1449) filed on March 17, 2004 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Paffrath et al. (US Patent Number 6,334,436 B1) discloses a secondary air system for an internal combustion engine.

- Hiereth et al. (US Patent Number 4,803,969) discloses a process for the load dependent control of a hydraulic drive for a compressor arranged in an internal combustion engine.

- Bucher (US Patent Number 4,729,225) discloses a turbocharged internal combustion engine with exhaust gas energy recuperation.

- Mitchell (US Patent Number 5,847,470) discloses an auxiliary motor drive system.

- Nakane et al. (Patent Number JP 06323152 A) disclose a supercharger for engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
July 14, 2004



Thai-Ba Trieu
Patent Examiner
Art Unit 3748